



THE DEPARTMENT OF THE NAVY'S INFORMATION TECHNOLOGY MAGAZINE

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DON Manages Increasing Spectrum Encroachment

By Thomas Kidd and Mark Rossow - July-September 2011

Naval installations have long been good neighbors with their surrounding communities. In fact, in many cases, Navy and Marine Corps bases, posts and training ranges limit some operations to preserve friendly relationships.

When many military installations were initially built, they were literally in the middle of nowhere. Cheap land and wide open spaces meant that Sailors and Marines could train in relative seclusion. But this isolation could not last forever in a rapidly growing nation. And as people moved closer to military installations and airfields, what were once non-issues, such as aircraft noise, became points of contention within communities. Likewise, amphibious landing exercises on once secluded beaches became disruptive to tourism because modern highways made remote locations more easily accessible.

As a result, many restrictions were enacted within the past two to three decades in consideration of the growing populations living near military installations. Operational restrictions curtail aircraft and machinery noise, protect wildlife and limit carbon emissions into the atmosphere.

The continued encroachment on Navy and Marine Corps real estate even affects the type of training and operations that can be conducted on installations. Many restrictions are permanent, but some are limited to specific times of the day, month or year.

The Department of the Navy's electromagnetic spectrum, or radio frequency, use is similarly affected by encroachment. During the past decades naval spectrum use grew proportionally to public and commercial use. For most of the 20th century, the Navy and Marine Corps had ample spectrum to support communications, radar and other spectrum-enabled capabilities. Spectrum use, though always regulated, was relatively unimpeded.

But near the end of the 20th century, the emergence of a plethora of wireless capabilities, made possible by the use of radio frequencies, began to affect the amount of spectrum available to naval forces. While public and commercial spectrum use, as well as federal government use, increased dramatically in recent decades, so too has the military's reliance on spectrum.

To help ensure harmony with public and commercial spectrum requirements, restrictions limiting naval spectrum use, such as time, location, altitude and propagation, are often placed on DON installations just as training and operational restrictions are imposed.

Some spectrum restrictions intend to prevent radio frequency interference to public and commercial spectrum use; while others are self-imposed to prevent interference between Navy, Marine Corps, Army and Air Force equipment.

As spectrum use increases, spectrum encroachment will continue to challenge the Navy and Marine Corps when conducting realistic training and day-to-day operations. The DON maintains a unique and diverse cadre of spectrum professionals who understand the department's spectrum requirements, ensure they are met and comply with international, federal, Department of Defense and DON regulations.

The department's globally dispersed spectrum team of civilian and military personnel are located at installations, training ranges, major commands and operational organizations throughout the nation and the world. This team coordinates and negotiates the department's usage of spectrum with host nation governments and non-government entities.

Access to and use of spectrum continues to be vital to the nation's naval services. The DON, in its continuing efforts to ensure spectrum is available, will also continue to ensure that its use is in concert with commercial and public spectrum use — as a good neighbor should.

To locate a spectrum manager in your area, whatever your spectrum requirement, email: navyspectrum.fct@navy.mil.

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